

A Review of the Genus *Hypatima* and its Related Genera (Lepidoptera, Gelechiidae) in Korea*

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Abstract Sixteen species of the genus *Hypatima*-group occurring in Korea, including two previously known species, are recognized in four genera; 5 species in *Hypatima*, 8 species in *Faristenia*, 1 species in *Dactyrethrella*, and 2 species in *Tornodoxa*. Of these, 2 species of *Hypatima* Hübner (*obscura* sp. nov., and *claviformis* sp. nov.), 3 species of *Faristenia* Ponomarenko (*nigriella* sp. nov., *atrimaculata* sp. nov. and *jumbongae* sp. nov.) and 1 species of *Tornodoxa* Meyrick (*longiella* sp. nov.) are described as new to science, and 8 species are reported for the first time from Korea. Taxonomic relationships among genera and species are discussed, with illustration of adults, labial palpi, and genitalia of both sexes. Keys to the genera and species are given.

Key words Systematics, Lepidoptera, Gelechiidae, *Hypatima*, *Faristenia*, *Tornodoxa*, *Dactyrethrella*, Korea.

INTRODUCTION

The genus *Hypatima* and its related genera which are characterized by the expanded ridge of loose hair-tuft anteriorly on the 2nd segment of labial palpi, were originally placed in Meyrick's group-6 (*Chelaria*-type), and then they have been included in the subfamily Chelariinae by the previous authors (Sattler, 1973; Hodges, 1978; Moriuti, 1982; Park, 1983; Kuznetsov & Stekol'nikov, 1984). However, Hodges (1986) rearranged the family Gelechiidae into three subfamilies; Gelechiinae, Pexicopiinae and Dichomeridinae, based on the abdominal support structures on the 2nd sternite. The main characters of the subfamily Gelechiinae differentiated from the other subfamilies by him are well-developed apodemes and venulae on the 2nd sternite; Dichomeridinae and Pexicopiinae do not have apodemes and venulae, respectively. Recently Omelko (1991) grouped the family Gelechiidae into 5 subfamilies; Metzneriinae, Gelechiinae, Teleiodinae, Dichomerinae, and Chelariinae, placing these genera related to the genus *Hypatima* into Chelariinae. Ponomarenko (1992) treated Chelariinae Heslop as a junior synonym of the subfamily Dichomeridinae and separated the subfamily into three tribes (*Anarsiini* Amsel, *Chelariini* Heslop and *Dichomeridini* Hampson), based on m_4 muscle arising

* This study was conducted with financial support by the Korea Research Foundation, 1990-1991.

from the separated parateguminal sclerite. I, however, consider that further discussions should be needed to place the tribe Chelariini in the subfamily Dichomeridinae, because the abdominal structure of *Hypatima*-group have rather developed apodemes in the 2nd sternite, and genitalic characters are different from those of *Dichomeris*-group. On the other hand a further study and discussion will be also needed to clarify the rank of the tribe Anarsiini, separating from the Chelariini. The genus *Anarsia* is excluded in this paper, because Park (1991) previously reviewed the genus in Korea with three species: *A. bipinata* Meyrick, *A. bimaculata* Ponomarenko, and *A. nigricana* Park. Thus, in this review, four genera: *Hypatima* Hübner, *Faristenia* Ponomarenko, *Dactylethraella* Meyrick, and *Tornodoxa* Meyrick, are reviewed as *Hypatima*-group in Korea.

The previously known species of the genus *Hypatima*, which were originally described in the genera: *Chelaria* Haworth, *Allocotq* Meyrick, are abundantly distributed in Oriental and Ethiopian regions, with only seven known species in Palaearctic region. Recently Ponomarenko (1991) erected a new genus *Faristenia* with descriptions of seven new species from Primorye Territory, separating it from the genus *Hypatima* based on the M_1 free from R_5 on forewings and well developed long hair-pencils on the hindwings of male. The genus *Dactylethrella* is closely related to *Hypatima*, but it can be separated from the latter by characteristic veins and genitalia. Only one species *tegulifera* (Meyrick) has been known from Far East. The genus *Tornodoxa* Meyrick is a monotypic genus, with a Japanese species *tholochorda* Meyrick. Terminology for the genitalia used in this review is followed Kuznetsov (1967) and Omelko (1988).

Abbreviations of the provinces to which collecting localities belonged are as follows: GG-Kyunggi Prov.; GW-Kangwon Prov.; JB-Jeonbug Prov.; JN-Jeonnang Prov.; JJ-Jeju Prov.

SYSTEMATICS

Key to the genera of *Hypatima*-group based on venation and genital structures.

1. Forewing with M_1 and R_5 stalked or M_1 free2
 —Forewing with R_4 and M_1 connate or stalked, R_5 absent3
2. Forewing with M_1 stalked (except *mediofasciana* and *claviformis*); in hindwing costal expansion not well developed, basal part of radial stalk present, without hair-pencils; valva broadly expanded at distal portion; saccus developed in male genitalia.....*Hypatima* Hübner
 —Forewing with M_1 always free; in hindwing costal expansion usually extended to basal 2/3, basal part of radial stalk absent, with a bundle of long hair-pencil near base; valva expanded at ventral margin; saccus not well developed in male genitalia.....*Faristenia* Ponomarenko
3. Forewing M_2 curved towards M_3 near termen; costal expansion extended to about half; uncus very long; saccus rather short in male genitalia*Dactylethrella* Fletcher
 —Forewing with M_1 free in female; M_2 almost parallel to M_3 ; costal expansion extended beyond half; uncus short, very broad; saccus long in male genitalia*Tornodoxa* Meyrick

Genus *Hypatima* Hübner

Hypatima Hübner, [1825], Verz. bek. Schmet.: 45

Type-species: *Tinea conscriptella* Hübner, 1805

Synonyms: = *Allocota* Meyrick, 1904, Pro. Linn. Soc. N.S.W., 29: 258

Type-species: *Allocota simulacrella* Meyrick, 1904

= *Allocotaniana* Strand, 1913, Arch. Nat., 79(42): 43

Type-species: *Allocota simulacrella* Meyrick, 1904

= *Chelaria* Haworth, 1828, Lepid. Br.: 526

Type-species: *Chelaria conscripta* Haworth, 1828

= *Cymatomorpha* Meyrick, 1904, Pro. Linn. Soc. N.S.W., 29:258

Type-species: *Cymatomorpha euplecta* Meyrick, 1904

= *Deuteroptilia* Meyrick, 1904, Pro. Linn. Soc. N.S.W., 29: 258

Type-species: *Deuteroptilia aphenophora* Meyrick, 1904

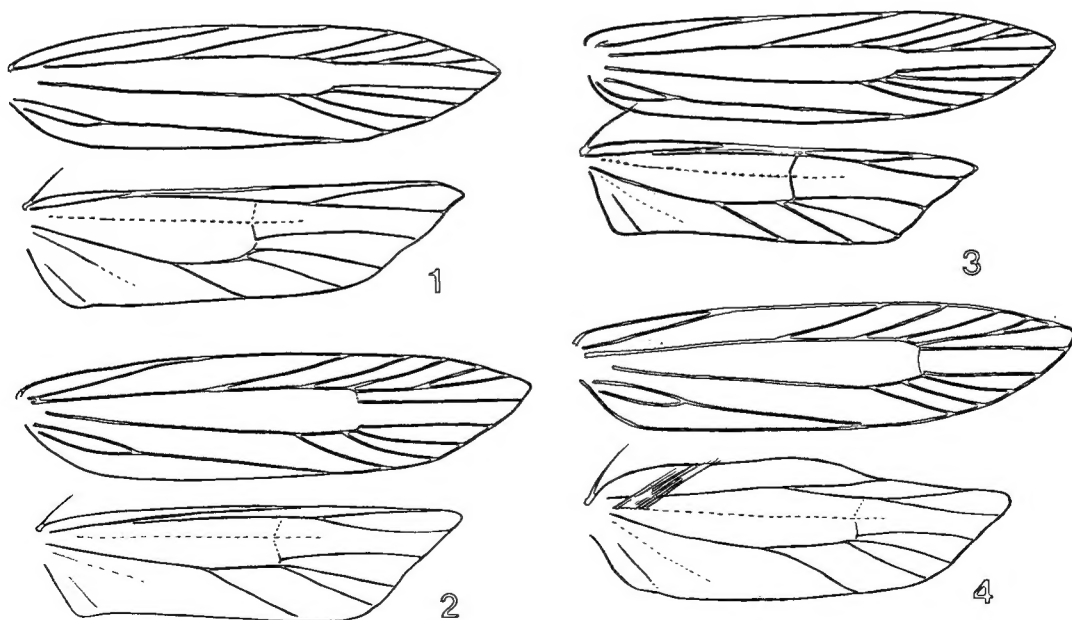
= *Episacta* Turner, 1919, Pro. R. Soc. Qd., 31: 161

Type-species: *Chelaria discissa* Meyrick, 1916

= *Semodictis* Meyrick, 1909, Ann. Trans. Mus., 2: 16

Type-species: *Semodictis tetraptila* Meyrick, 1909

More than one hundred species (about 80 species in Oriental, 20 species in Ethiopian and seven species in Palaearctic Region) have been described in the genus *Hypatima* until Ponomarenko (1991) separated the genus *Faristenia* from the latter. This genus is characterized by M_1 and R_5 stalked, R_4 arising from stalk of $R_5 + M_1$, but some remarkable variations among the known species are



Figs. 1-4. Wings venation: 1, *Hypatima excellentella* Ponomarenko; 2, *H. mediofasciana* Park; 3, *H. obscurella* sp. nov.; 4, *Faristenia furtumella* Ponomarenko.

observed: venation of *excellentella* Ponomarenko is almost identical to that of type species; genitalia of *venefica* Ponomarenko represents common characters of *Hypatima*, but its forewing venation with M_1 free is well in accordance with other members of the genus *Faristenia*. On the other hand *mediofasciana* Park and *obscurilla* sp. nov. have different venations each other (see Figs. 2 and 3), but the structures of male genitalia are almost identical. Judging from the genitalic structure and venation of these species, the venation can not independently be a stable character to clarify their generic status.

In this review, the author grouped the genus *Hypatima* into three different groups based on the structure of genitalia: *rhomboidella*-group, *saxigera*-group, and *claviformis*-group. The genus is closely related to the genus *Faristenia* Ponomarenko, but it is easily separated from the latter by the absence of long hair-pencils on hindwings.

Key to the species of *Hypatima* based on venation and male genitalia

1. Valva slender, taenioid; uncus very short, crown-shaped, not moderately conneted with Tegumen *claviformis*
 — Valva with expanded distal portion; uncus corn-shaped with or without a acute terminal projection, moderately connected with tegumen 2
2. Saccus very short (*rhomboidella*-group) 3
 — Saccus long, slender (*saxigera*-group) 4
3. Forewing venation with M_1 and R_5 stalked *excellentella*
 — Forewing venation with M_1 free *venefica*
4. Forewing venation with M_1 and R_5 stalked, median fascia obscure *obscurilla*
 — Forewing venation with M_1 free, median fascia distinct *mediofasciana*

The *rhomboidella* species-group

Forewing venation with M_1 on common stalk of R_5 or M_1 free; distal portion of valva broadly expanded; uncus corn shaped; saccus very short. The type species of the genus *Hypatima*, *rhomboidella* Linnaeus is a representative of this group, as well as *excellentella* Ponomarenko and *venefica* Ponomarenko.

Hypatima excellentella Ponomarenko 털수염뿔나방 (Figs. 5, 22, 34, 43, 60)

Hypatima excellentella Ponomarenko, 1991, Ent. Obozr., 70 (3): 617, figs. 9, 25. *Hypatima silvestris*: Park, 1983: 88 (misidentification, nec Meyrick, 1913).

Adult. Wingspan, 14–15 mm. Head and thorax creamy white. Second segment of labial palpi (Fig. 22) with loose long hairs-tuft beneath, speckled with dark brown at base and middle; 3rd segment longer than 2nd, with rough scales beyond middle dorsally except apical portion, basal and posterior half dark fuscous except smooth apical portion. Forewings ochreous, brown scales irregular

scattered; several dark brown fascia narrowly edged with white, among them middle one largest; costal base dark; a large dark spot accompanied with a small one near base; two small dark spots in cell obliquely; two long streaks beyond cell, one of them reaches to termen.

Male genitalia (Fig. 43). Uncus corn-shaped, distal margin round, with long hairs laterally. Gnathos hook-shaped, heavily sclerotized. Tegumen sclerotized at distal 1/4, inflated basally. Valva slightly exceeds uncus, with distal portion roundly dilated, narrowed toward base; valvella club-shaped, with denticles along distal margin. Saccus well developed. Aedeagus relatively small, rather slender, curved in S-shaped.

Female genitalia (Fig. 60). As shown in the figure, ostium bursae small, ovate; lateral flaps covered with finely wrinkled membrane; ductus bursae thin, very long; corpus bursae ovate, signum forming very large rectangular plate with sharpened apex.

Material examined. Gwanglung, GG, 1 ♂, 13.VI.1988 (K.T. Park); 1 ♂, 1 ♀, 13.VIII.1986 (K.T. Park et M.K. Ko); Mt. Suri-san, near Suweon, GG, 1 ♀, 15.VI.1991 (K.T. Park); Suweon, GG, 2 ♂, 10.IX.1974 (Y.I. Lee); Suweon, 1 ♂, 23.VII.1975 (Y.I. Lee); Mt. Yumyung-san, GG, 1 ♂, 17.VI.1991 (S.H. Oh); Chuncheon, GW, 2 ♂, 39.V.1989 (K.T. Park), 1 ♂, 2.IX.1989 (K.T. Park), 1 ♀, 19.VI.1990 (K.T. Park), 1 ♂, 22.VII.1991 (B.K. Byun), 4 ♂, 1 ♀, 15.VI.1992 (K.T. Park); Cheungpyungsa, Chuncheon, 1 ♂, 5.VI.1989 (K.T. Park); Mt. Gyeonggang-san, GW, 3, 9.VIII.1989 (K.T. Park); Mt. Seolag-san, GW, 1 ♂, 1 ♀, 2.VIII.1989 (K.T. Park); Mt. Deam-san, Yanggu, GW, 1 ♂, 14.VI.1987 (K.T. Park et U. Park); Yangyang, GW, 3 ♂, 4.VI.1987 (K.T. Park).

Distribution. Korea (South), Russian Far East.

Remarks. This species is very close to *H. silvestris* which was reported from Assam, and has been misidentified as the latter after Park (1983) in Korea. Most of specimens were collected from mid-June to mid-August in Korea.

Hypatima venefica Ponomarenko 흑줄수염팔나방 (신칭) (Figs. 6, 23, 35, 44, 61)

Hypatima venefica Ponomarenko, 1991, Ent. Obozr., 70: 616, figs. 8, 26, 36.

Adult. Wingspan, 14.5–19 mm. Head and thorax light brown. Second segment of labial palpi (Fig. 23) with long loose hairlike scales beneath, forming rectangle; 3rd segment slightly longer than 2nd, with very narrow brown stripe near base, without distinct rough scales above. Forewings ochreous, speckled with light brown scales; dark fuscous streaks near base, middle, beneath and beyond cell; 4–5 small brown fascia developed along costa beyond middle, with yellowish white portion among them. Few differences are shown in venation from the type species, *conscriptella* Hübner or the oriental species, *silvestris* Meyrick: M_1 separated, arising closely at the base of R_5 whereas M_1 stalked in the latter. But the structure of genitalia is well in accordance with the type species of *Hypatima*.

Male genitalia (Fig. 44). Closely resembles the preceding species. Base of uncus broader. Valva not exceeds uncus. Saccus rounded at anterior margin. Aedeagus large, inflated at basal 1/3. Eighth tergite with concaved distal margin, instead of rounded margin in the preceding species.

Female genitalia (Fig. 61). As shown in the figure, anterior margin of ostium bursae strongly emarginated; signum very large, characteristic.

Material examined. [KOREA]-Mt. Gyeong-bang-san, GW, 2♂, 1♀, 2.VIII.1980; Chuncheon, GW, 1♂, 9.IX.1988 (K.T. Park); Sogumgang, GW, 1♂ 7.VII.1988 (K.T. Park); Mt. Samag-san, GW, 1♀, 19.VII.1989 (K.T. Park); Bongmyungri, Hongcheon, 1♂, 30.VI.1992 (B.K. Byun). North Korea: Samjiyeon, Mt. Paektu-san, 1♂, 19.VII.1977 (Dely et Draskovits). [JAPAN]-Shirouma village, Nagano, 1♂, 2.VIII.1979 (K. Fujisawa); Kisojihar, Nagawa, Nagano, 1♀, 20.VIII.1987 (K. Fujisawa), same locality, 1♀, 25.VIII.1984 (F. Fujisawa)

Distribution. Korea (North and South, new record), Japan, Russian Far East.

The *saxigera* species-group

Forewing venation of M_1 free or stalked with R_5 ; Valva rather slender, distal portion of valva moderately expanded; uncus with conical terminal process; saccus very long. Two species, *mediofasciana* Park and *obscura* sp. nov. are included in this group: their genital structures of both sexes resemble closely each other, but they have different venations; M_1 free in the former, but M_1 stalked in the latter. The structure of the male genitalia of following two species shows remarkable differences from the typical characters of the genus *Hypatima*, especially in having long saccus. A further study is needed to clarify the generic status of this group.

Hypatima mediofasciana Park 사다리털수염빨나방 (신칭) (Figs. 7, 45, 62)

Faristenia mediofasciana Park, 1991, Annls. hist. nat. Mus. natn. hung., 78: 119, figs. 5~8.

Adult. Wingspan, 11-13 mm. This species was recently described from Kaesung, North Korea by the author.

Male and female genitalia (Figs. 45, 62). As shown in figs, see Park (1991: 119, Figs. 5-8).

Material examined. Suwon, GG, 1♂, 29.VI.1976 (C.Y. Whang); 1♂, 20.VII.1976 (K.B. Uhm); Mt. Yeogi-san, Suwon, 1 (?), 17.VI.1983 (Y.I. Lee); Gwanglung, GG, 1♀, 20.VII.1982 (K.T. Park); Chuncheon, GW, 1♂, 14.VIII.1987, 1♀, 12.VIII.1988 (K.T. Park), 1♂, 2.IX.1988 (K.T. Park); Chugok, near Chuncheon, 1♀, 30.VII.1986 (K.T. Park); Naemyun, Hongcheon, GW, 1♂, 1♀, 14.VIII.1987 (K.T. Park); Mt. Seolag-san, GW, 1♀, 10.VIII.1989 (K.T. Park); Yangyang, GW, 4♂, 8♀, 1.VII.1987; Sogumgang, 3♂, 5♀, 6.VII.1988 (K.T. Park); Mt. Palbong-san, GW, 1♂, 5.VII.1986; Mt. Gyeong-bang-san, GW, 1♀, 20.VII.1980 (K.T. Park); Jeongseon, GW, 4♂, 10♀, 6.VII.1988 (K.T. Park); Muju, JB, 4♂, 30.VII.1987 (K.T. Park).

Distribution. Korea (North and South.).

Remarks. The forewing venation, M_1 free, is in accordance with the characteristics of the genus *Faristenia*, and the shape of male genitalia also presents a remarkable difference from *Hypatima*, especially in having long saccus. Following new species *obscura* park is almost identical to this species, but wing venations of the two species are quite different from each other.

Hypatima obscura sp. nov. 동방수염빨나방 (신칭) (Figs. 8, 46, 63)

Adult. Wingspan, 11-16 mm. This species closely resembles *mediofasciana* Park superficially, but it

can be separated by the followings; forewings more elongate, no distinct dark brown rectangular median fascia, costa before middle speckled with yellowish orange; termen of hindwings strongly sinuated; in forewing venation, R_4 and R_5 with long stalk, M_1 connated at base instead of M_1 free in *mediofasciana* Park. This species is in well accordance with the genus *Hypatima* in venation and in absence of hair-pencils on hindwings. also it is very close to Chinese species *saxigera* Meyrick, but it can be distinguished from the latter by the male genitalia.

Male genitalia (Fig. 46). Very similar to *mediofasciana* (see Park, 1991: 119 and Figs. 5-8) and *saxigera*. In comparison with male genitalia of the lectotype of *saxigera* (gen. prep. no. 8500/Clarke) deposited in the Natural History Museum, London, following differences are found: valva nearly straight whereas strongly curved at basal 1/3 in *saxigera*, distal portion of valva much more broadened, and processes (=valvella) at base of valva and juxta larger.

Female genitalia (Fig. 63). No profound differences can be found in comparison with the female of *saxigera* (gen. prep. no. 7379/Sattler) which is from the same locality (Kwanhsien, Southern part of China) as the lectotype.

Material examined. Holotype: ♂, Chuncheon, GW, 25.VI.1985 (K.T. Park). Paratypes: 1 ♀, same locality and date as holotype; Chuncheon, 1 ♂, 2.IX.1988 (K.T. Park), 1 ♀, 4.VIII.1988 (K.T. Park); 2 ♂, 12.VI.1989 (K.T. Park), 1 ♂, 2.IX.1988 (K.T. Park), 1 ♂, 1 ♀, 15.VIII.1992 (K.T. Park); Hongcheon, 1 ♂, 5.IX.1986 (K.T. Park); Hwacheon, GW, 1 ♂, 2.VII.1985 (K.T. Park); Mt. Chiag-san, GW, 1 ♂, 23.VI.1977 (K.R. Choe); Pyungchang, GW, 1 ♂, 31.VII.1991 (K.T. Park); Mt. Palbong-san, GW, ♀, 5.VII.1991 (K.T. Park).

Distribution. Korea (South).

Remarks. The genital characteristic of this species is very close to *H. mediofasciana*, but the venation of this species (Fig. 3) differs from the latter (Fig. 2) by M_1 stalked with R_5 .

The *claviformis* species-group

Forewing venation of M_1 free. In male genitalia valva slender, taeniod; uncus broad, crown-shaped, basal part of uncus not moderately connected with tegumen; saccus rather short. Taxonomic status of this species should be considered because its genital structures are vastly different from the other members of *Hypatima*.

Hypatima claviformis sp. nov. 흑수염팔나방 (신칭) (Figs. 9, 28, 47, 64)

Adult. Wingspan, 10-11.5 mm. Head creamy white, rarely speckled with grey scales posteriorly. Tegula speckled with dark grey. Antennae simple, with rather distinct dark brown rings on flagellum. Second segment of labial palpi (Fig. 28) triangular, light orange mixed with brown scales on outer surface; apical portion yellowish white; 3rd segment as long as 2nd, with rough scales dorsally except apex, brown stripes near base, middle and preapical portion. Ground colour of forewings yellowish white, irrorated with dark brown scales irregularly, with well developed scale-tufts near 1/4 and middle on costa, and near base of center, a large ovate yellowish white patch well presented near the end of cell. Hindwings pale grey, strongly sinuate at termen. Hind-tibia with white long hairs

above, irrorated with dark brown outwardly; inner middle spur very long, about 1/3 length of tibia.

Male genitalia (Fig. 47). Uncus crown-shaped, very short. Gnathos strong hook-shaped, broadened trianglulary at apical portion. Valva very slender, taenioid, slightly expanded near middle, much more exceeds the end of uncus. Saccus narrow, but short. Aedeagus rather short and stout, in comparison with other species of *Hypatima*.

Female genitalia (Fig. 64). As shown in the figure, posterior margin of ostium bursae convex at middle; anterior margin round, forming cup-shaped. Ductus bursae narrow, as long as length of corpus bursae; ductus seminalis arising from conjunction of corpus bursae; Corpus bursae large, semiovate; signum crescent-shaped.

Material examined. Holotype: ♂, Mt. Deogyu-san, Muju, JB, 13.VIII. 1975 (K.T. Park). Paratypes: 1 ♂, 2 ♀, same locality and date as holotype; Suweon, GG, 1 ♂, 20.VI.1977 (K.T. Park); Chuncheon, GW, 1 ♂, 28. VI. 1985 (K.T. Park).

Distribution. Korea (South).

Remarks. Judging from the shape of male genitalia, especially in the shape of uncus, its connection with Tegumen, and taenioid valva, it should be separated from the genus *Hypatima*. Venation of forewings is rather in accordance with the genus *Faristenia* by M_1 free. Thus I place tentatively this species in a group of the genus *Hypatima*, deferentiating from *Faristenia* due to the structure of male genitalia and the absence of hair-pencils on hindwing.

Genus *Faristenia* Ponomarenko

Faristenia Ponomarenko, 1991, Ent. Obozr. 70 (3): 601

Type-species: *Faristenia omelkoi* Ponomarenko, 1991.

The genus is separated from the genus *Hypatima* by the vein M_1 free on the forewings and well developed long hair-pencils at basal portion of cell on hindwings. Forewing veins with R_5 arising beyond middle of R_1-R_3 ; R_4 and R_5 on a common stalk; M_1 free, close to R_5 near base; CuA_1 connate or closer at base, without basal part of radial stalk. Seven species have been known only from Russian Far East. Ponomarenko (1991) emphasized the absence of the discal vein on the forewings in his original description, but it seems not to be a remarkable character to separate it from related genera.

Key to the species of *Faristenia* based on male and female genitalia

1. Valva with well-developed ventral expansion2
 - Valva slender, rather twisted, without distinct ventral expansion or foot-shaped6
2. Ventral expansion of valva before or near middle3
 - Ventral expansion of valva beyond middle; valvella sharply acuted*omelkoi*
3. Ventral expansion of valva near middle; signum in female various shapes4
 - Ventral expansion of valva before middle; signum in female small, triangular*furtumella*
4. Ventral expansion of valva triangular; distal margin of dorsomedial plate in female convex at middle*acerella*

- Ventral expansion of valva semicircular; distal margin of dorsomedial plate in female concave at middle5
- 5. Uncus large with a small emargination at middle; ventral expansion of valva with setae along lateral margin; aedeagus rather small; apophysis anterioris long*ussuriella*
- Uncus small, convex at distal margin; ventral expansion of valva with setae centrally; aedeagus long; apophysis anterioris short*nigriella*
- 6. Valva smoothly expanded near middle or paddlelike; signum round with edge finely serrated ...7
- Valva bent middle, forming a foot, basal half very narrow; signum pentagon with edge coarsely serrated*jumbongae*
- 7. Dorsomedial plate in female very large, with distal margin concaved at middle*quercivora*
- Dorsomedial plate in female moderate, with distal margin rounded at middle*atrimaculata*

***Farestenia acerella* Ponomarenko 단풍수염팔나방 (신칭) (Figs. 10, 24, 48, 65)**

Faristenia acerella Ponomarenko, 1991, Ent. Obozr., 70 (3): 606, figs. 3, 15, 16, 29.

Adult. Wingspan, 13.5–14.5 mm. Head pale brownish grey, paler toward frons. Thorax brownish grey. Second segment of labial palpi (Fig. 24) rather trapezoidal with long loose scales; yellowish brown at basal 3/4, yellowish white at distal 1/4 on outer surface; greyish orange on inner surface; 3rd segment as long as 2nd, basal 1/3 creamy white with dark brown stripe; distal 2/3 dark fuscous, speckled with white scales rarely, with two yellowish white spot ventrally, roughly scaled dorsally near apex; apex creamy white, pointed. Forewings brownish grey, a dark fuscous scale-tuft well developed at 1/3 below cell; a large costal patch near middle, with rather small one before and 2–3 small ones beyond it; apex rather round.

Male genitalia (Fig. 48). Distal margin of uncus round, with a small emargination at middle. Gnathos moderate. Valva narrowed before 1/3 and expanded beyond it, with large protrusion near middle ventrally. Valvella slender, apical portion curved outwardly and acute. Aedagus very short, basal half globular, sharpened beyond it.

Female genitalia (Fig. 65). As shown in the figure, distal margin of dorsomedial plate beyond 8th segment convex. Ostium bursae relatively sclerotized, with triangular plate around. Ductus bursae thin, very long. Corpus bursae semiovalate; signum crescent-shaped.

Material examined. Gwanglung, GG, 1♂, 10.VII.1990 (K.T. Park); Mt. Obong-san, near Chuncheon, GW, 2♂, 3♀, 30.V.1985 (S.B. Ahn), 1♀, 4.VI.1985 (S.B. Ahn)—larvae were collected from *Acer* sp.; Chuncheon, 2♂, 2♀, 30.V.1986 (K.T. Park)—larvae were collected from *Acer ginnala* Max.; Bongmyungri, Hongcheon, 1♂, 1♀, 30.VI.1992 (K.T. Park et B.K. Byun); Mt. Samag-san, GW, 1♂, 19.VII.1989 (K.T. Park), 1♂, 22.VI.1989 (K.T. Park), 1♂, 19.VII.1989 (K.T. Park); Whacheon, GW, 1♂, 2.VII.1985 (K.T. Park); Mt. Jumbong-san, GW, 1♂, 22.VI. 1992 (K.T. Park et B. K. Byun).

Host. *Acer ginnala* Max. is newly known from Korea, and *Acer* sp. has been known from Russia (Ponomarenko, 1991)

Distribution. Korea (South, new record), Russian Far East.

***Faristenia furtumella* Ponomarenko 콘털수염뽕나방 (신칭) (Figs. 11, 25, 37, 49, 67)**

Adult. Wingspan, 14–18 mm. Head and thorax brownish grey. Second segment of labial palpi (Fig. 25) dark greyish brown outwardly, speckled with white creamy scales near apex, rather triangular, extended anteriorly; 3rd segment longer than 2nd, slender with acute apex, basal half creamy white with dark stripe; distal half dark fuscous speckled with white scales sparsely on outer surface; apex white, pointed. Forewings rather paler than those of the related species; costal patch trapezoidal; irregular dark fuscous short streaks scattered. Hindwings grey; termen slightly sinuated; apex rather obtuse.

Male genitalia (Fig. 49). Distal margin of uncus round. Valva with rather acute expansion ventrally before middle; valvella of juxta slender, narrower toward end. Aedeagus longer than that of the previous species.

Female genitalia (Fig. 68). Dorsomedial plate beyond 8th segment with round distal margin. Ostium cup-shaped. Ductus bursae relatively short, as long as length of corpus bursae; signum very small.

Material examined. Gwanglung, GG, 1 ♂, 8.VI.1977 (K.T. Park), 1 ♂, 9.VI.1977 (J.S. Lee), 25 ♂, 2 ♀, 31.V.1986 (K.T. Park), 1 ♀, 27.VI.1986 (K.T. Park et U. Park); Suweon, 1 ♂, 1 ♀, 5.VI.1989 (K. T. Park et B.K. Byun), 2 ♂, 3 ♀, 7.VI.1990 (K.T. Park), 2 ♂, 19.VI.1990 (K.T. Park); Mt. Samag-san, near Chuncheon, GW, 1 ♂, 22.VI.1989; Mt. Gyeong-bang-san, GW, 1 ♂, 2.VII.1989 (K.T. Park); Hyangro-bong, GW, 1 ♂, 11.VI.1987 (K.T. Park).

Distribution. Korea (South, new record), Russian Far East.

***Faristenia quercivora* Ponomarenko 참나무수염뽕나방 (신칭) (Figs. 12, 50, 68)**

Faristenia quercivora Ponomarenko, 1991, Ent. Obozr., 70 (3): 615, figs. 5, 21, 22, 31.

Adult. Wingspan, 13.5–7 mm. Head pale brownish grey. Thorax dark fuscous. Second segment of labial palpi triangular, dark brown outwardly, creamy white along anterior margin near apex. 3rd segment longer than 2nd, slender, without rough scales near apex dorsally; basal 1/3 creamy white with a dark stripe; distal 2/3 dark fuscous, with yellowish white dots ventrally; apex white, sharply pointed. Forewings pale brownish grey, speckled with creamy white scales; several dark fuscous streaks scattered irregularly. Hindwings pale grey.

Male genitalia (Fig. 50). Uncus and gnathos similar to *F. furtumella*. Valva different from the previous species, expansion on ventral margin very smooth and narrowed beyond it; valvella rather triangular. Aedeagus moderate, global at base, and distal half narrower toward end.

Female genitalia (Fig. 68). Apophysis anterioris rather shorter than that of the preceding species; dorsomedial plate beyond 8th segment large, with concave distal margin. Ductus bursae very long; signum hat-shaped, not dentate.

Material examined. [KOREA]—Chuncheon, GW, 1 ♂, 11.VI.1989 (K.T. Park); 1 ♀, 7.VII.1987 (K. T. Park); Chugok, near Chuncheon, 2 ♀, 30.VII.1985; 1 ♂ Gyeong-bang-san, GW, 2.VII.1989 (K.T. Park);

Mt. Halla-san, JJ. 1 ♀, 5.VII.1986 (K.T. Park). [JAPAN]-Tobira-onsen, Matsumoto, Nagano, 2 ♂, 9.VIII.1984 (K. Fujisawa); Shirahoneguchi Azumi, Minamiazumi, Nagano, 1 ♀, 21.VIII.1990 (K. Fujisawa); Kisojihara, Nagawa, Nagano, 1 ♂, 9.VIII.1982 (K. Fujisawa).

Distribution. Korea (South, new record), Japan, Russian Far East.

***Faristenia ussurilla* Ponomarenko 우수리털수염빨나방 (신칭) (Figs. 13, 26, 38, 51, 66)**

Faristenia ussurilla Ponomarenko, 1992, Ent. Obozr., 70 (3): 615, figs. 4, 23, 24, 32.

Adult. Wingspan, 14–15 mm. Head greyish brown; thorax rather dark. Second segment of labial palpi (Fig. 26) trapezoidal with rather short scales; brown on outer surface, speckled with creamy white scales near apex dorsally; yellowish white centrally on inner surface; 3rd segment longer than 2nd, rather stout, basal half yellowish white with a dark stripe; distal half dark fuscous; apex white, sharply pointed. Forewings greyish brown, costal patch well developed; several dark fuscous streaks developed near base, along antemedian fascia and below costal patch; some others irregularly scattered beyond end of cell. Hindwings pale grey; apex obtuse; termen slightly sinuated.

Male genitala (Fig. 51). Uncus similar to *F. quercivora* as shown in fig. 51. but with broader uncus and larger ventral expansion. Valva with very large expansion at middle ventrally; valvella of juxta short. Aedeagus is rather small.

Female genitalia (Fig. 66). Apophysis anterioris rather long. Eighth sternite strongly chitinized, rather short, with hook-shaped sclerite on lateral flaps. Dorsomedial plate beyond 8th segment trapezoidal, slightly emarginate at middle distally. Ostium bursae with strongly convex apex and with a small semicircular flap at middle. Antrum chitinized, long. Ductus bursae relatively short. Corpus bursae ovate; signum round, heavily dentate.

Material examined. Mt. Suri, near Anyang, GG, 1 ♂, 15.VI.1990 (W.S. Cho); Chuncheon, GW, 1 ♂, 13.VI.1989, same locality, 1 ♀, 19.VI.1990 (K.T. Park); Yangyang, GW, 1 ♂, 4.VI.1987 (K.T. Park); Mt. Odae-san, GW, 1 ♂, 26.VI.1989 (K.T. Park).

Distribution. Korea (South, new record), Russian Far East.

***Faristenia nigriella* sp. nov. 검정털수염빨나방 (신칭) (Figs. 14, 27, 39, 52, 69)**

Adult. Wingspan, 13–13.5 mm. Head, thorax dark fuscous. Second segment of labial palpi (Fig. 27) triangular, brownish grey outwardly except distal 1/3 near apex; 3rd segment as long as 2nd or longer; basal half creamy white speckled with fuscous scales, with dark brown stripe; distal half dark fuscous; apex not very sharp. Ventral surface of legs dark fuscous; hindtibia clothed with dense setae dorsally. Abdomen yellowish white ventrally, dark fuscous dorsally. Forewings rather fuscous, narrow, with several yellowish white patches before and beyond dark fuscous central costal patch; several dark streaks irregularly scattered. Hindwings pale grey.

Male genitalia (Fig. 52). Very close to *ussuriella*, but it is separable from the latter by followings: distal margin of uncus not emarginate, rather slightly convex; ventral expansion of valva rather small, triangular and densely setosed at middle whereas setosed marginally in *ussuriella*; aedeagus

curved at middle and distal portion longer than basal inflated portion.

Female genitalia (Fig. 69). In general appearance, it is very similar to those of *ussuriella* Ponomarenko and *atrimaculata* sp. nov., but apophysis anterioris and posterioris shorter, especially anterioris very short with inflated end; eighth sternite long, broadly expanded anteriorly; dorsomedial plate beyond 8th segment shorter and wider than the latter; antrum not well developed; signum crescent-shape.

Material examined. Holotype: ♂, Chuncheon, GW, 5.VI.1989 (K.T. Park)-gen. prep. no. 4005. Paratypes: Mt. Gyeong-bang-san, GW, 1♂, 1♀, 2.VIII.1989 (K.T. Park); Mt. Jeombong-san, GW, 1♂, 22.VI.1992 (K.T. Park); Gwanglung, GG, 1♀, 13.VIII.1986 (K.T. Park). Further specimens from Japan: 1♀, Shiogura, Matsumoto, Nagano, Japan, 22. VI.1979 (K. Fujisawa).

Distribution. Korea (South), Japan.

Faristenia omelkoi Ponomarenko 오멜코틸수염꿀나방 (신칭) (Figs. 15, 53)

Faristenia omelkoi Ponomarenko, 1991, Ent. Obozr, ~~78~~⁷⁹(3): 603, figs. 1, 10, 11, 12, 27.

Adult. Wingspan, 13 mm. Only a male specimen was collected. Head and thorax pale grey. Antennae pale grey in pedicel, dark brown annulation on flagellum. 2nd segment of labial palpi triangular, yellowish white above, greyish on outer surface. Forewings fuscous, very similar to *nigriella* sp. nov., with several dark streaks well developed from base to near termen.

Male genitalia (Fig. 53). Uncus short, with strong setae laterally. Gnathos small, smallest among the related species in the genus. Valva slender at basal half, expansion beyond half, terminal portion short; valvella slender, sharply pointed. Aedeagus moderate.

Material examined. Chuncheon, GW, 1♂, 15.VI.1992 (K.T. Park), gen.prep. no. 4017.

Distribution. Korea (South, new record.), Russian Far East.

Faristenia atrimaculata sp. nov. 흑점틸수염꿀나방 (신칭) (Figs. 16, 25, 54, 70)

Adult. Wingspan, 14-16 mm. Head and thorax pale grey. Antennae simple, annulation on flagellum darker toward end. Second labial palpi (Fig. 28) triangular, evenly light brown except apical portion on outer surface, paler on inner surface; 3rd segment slightly longer than the 2nd, with appressed sclae above, basal 1/3 greyish white with brown stripe near base, sharply pointed. Forewings with costa curved gently before 1/3; ground colour greyish orange, irrorated with dark brown scales partly; costal patch large, trapezoidal. Hindwings pale grey, termen oblique; apex not sharp.

Male genitalia (Fig. 54). Uncus moderate with round distal margin. Gnathos slender, gently curved; apex blunt. Valva paddlelike, without ventral protrusion, broadened beyond middle; distal end round. Valvella spatulate. Saccus small. Aedeagus globular at basal half, beyond it slender.

Female genitalia (Fig. 70). It closely resembles *ussuriella*, but can be distinguished from the latter by followings: apophysis anterioris longer; dorsomedial plate large with round distal margin; distal margin of 8th sternite more strongly incurved; corpus bursae longer; signum round, rather smaller.

Material examined. Holotype: ♂, Muju, JB, 13.VIII.1975 (K.T. Park), gen. prep. 1411. Paratypes;

same locality and date as holotype, 1 ♂, 2 ♀; Suweon, GG, 1 ♂, 20.VI.1977 (K.T. Park), Chuncheon, GW, 1 ♂, 28. VI.1985 (K.T. Park).

Distribution. Korea (South).

***Faristenia jumbongae* sp. nov.** 흰무늬털수염빨나방 (신칭) (Figs. 17, 55, 71)

Adut. Wingspan, 12–14.5 mm. Head pale grey, darker posteriorly. Tegula and thorax greyish brown. Antennae dark brown, more distinct annulation contrasting pale grey beyond 2/3 of flagellum. Second segment of labial palpi triangular, greyish on outer surface with dark grey band near base and beyond half; 3rd segment longer than 2nd, appressed scales above, creamy white at base with a dark grey stripe. Ground colour of forewings brownish orange, with creamy white scales before middle and beyond costal patch; several short dark grey streaks throughout whole surface; darker beyond median fascia. Hindwings grey; base of dorsum strongly expanded outwardly.

Male genitalia (Fig. 55). Uncus very short, broadened to a semicircular plate, indented at middle, with short setae distally and long hairs laterally. Gnathos hook-shaped, small. Tegumen broad at basal half and forming a neck near middle. Valva slender at basal half, strongly bent near middle; distal portion foot-shaped, with strong long setae rarely along ventral margin; expanded at distal 3/4 and sharpened toward end. Aedeagus moderate, globular at basal 1/3, then narrowed towards end.

Female genitalia (Fig. 71). Eighth sternite sclerotized, lateral flaps far from each other ventrally, processes on both sides near middle of anterior margin. Dorsomedial plate very large, with round distal margin. Ostium bursae rather small. Antrum narrow, short. Ductus bursae long, about three times as long as that of corpus bursae. Corpus bursae rather long; signum large, semiovate, heavily dentate.

Material examined. Holotype: ♂, Mt. Jeumbong-san, GW, 22.VI.1992 (K.T. Park). Paratypes: [KOREA]–Gwanglung, GG, 1 ♂, 1 ♀, 8.VII.1992 (K.T. Park et B.K. Byun); Hongcheon, GW, 1 ♂, 1 ♀, 21.VII.1992 (K.T. Park et B.K. Byun), 1 ♀, 13.VI.1989 (K.T. Park); Bongmyungri, Hongcheon, 1 ♂, 1 ♀, 30.VI.1992 (K.T. Park); Yangyang, GW, 2 ♂, 1.VII.1987 (K.T. Park); Mt. Palbong-san, GW, 2 ♀, 5.VII.1990 (K.T. Park). [JAPAN]–Nakayama, Oonocho, Kameta, Hokkaido, 2 ♂, 2.VIII.1990 (K. Fujisawa); Horaka, Kamishihara, Kamikawa, Hokkaido, 1 ♀, 9.VII.1990 (K. Fujisawa); Matsumoto, Nagano, 1 ♀, 22.VI.1979 (Okada).

Distribution. Korea (South), Japan.

Genus *Dactylethrella* Fletcher

Dactylethrella Fletcher, 1940, Entom. Rec. J. Var., 52:18

Type-species: *Dactylethra tetroctas* Meyrick, 1906

Genus *Dactylethrella* comprises 8 species, among them 3 species are known from Oriental, 3 species from Ethiopian and only 2 species from Palaearctic Region. Second segment of labial palpi similar to that of *Hypatima* Hübner; with long tuft loose spreading scales beneath, 3rd segment as long as 2nd, loosely scaled, acute, with several black stripes. Forewings with R_4 and M_1 stalked, R_5 absent, M_2

curved towards M_3 near termen; M_3 - CuA_1 parallel. Hindwings expanded anteriorly to costal half; R_s and M_1 stalked, M_2 slightly approximated, M_3 and CuA_1 connate or nearly approximated.

***Dactylethrella tegulifera* (Meyrick) 상수리뿔나방 (Figs. 18, 30, 42, 56, 72)**

Dactylethra tegulifera Meyrick, 1932, Exot. Microl., 4: 201; Inoue, 1954: 7; Clarke, 1969:3; Moriuti, 1982: I : 283, II : 214 (of *Dactylethrella*); Park, 1983:87.

Adult. Wingspan, 13-14.5 mm. Head and thorax pale grey, speckled with dark fuscous scales. Second segment of labial palpi (Fig. 30) white, speckled with brown scales, with long loose hairtuft beneath; 3rd segment as long as 2nd, with raised rough scales beyond middle dorsally, two oblique streaks at near base and middle; apex acute. Forewings white, dark fuscous scales scattered; posterior 2/3 of costa dark brown with white serrate stigma, widened toward termen. Hindwings grey, apex not produced, obtuse; cilia shorter than width of hindwing.

Male genitalia (Fig. 56). Uncus long, apex round, lateral margin almost parallel. Gnathos narrow, sclerotized, hook-shaped, apex not pointed. Valva dilated from 2/3, a small produced process on apex; vavella slender, with round apical portion, curved outwardly. Vinculum forming band. Aedeagus with basal half inflated, with a large appendix sac, posterior half narrow, slightly sclerotized, twisted, bent at middle and at 2/3.

Female genitalia (Fig. 72). As shown in figure, apophysis anterioris very short. Eighth sternite long. Corpus bursae longer than 1/2 length of ductus bursae; signum crescent-shaped.

Material examined. Suweon, GG, 1 ♂, 1 ♀, 9.VII.1974 (P.E.S. Whalley); Mt. Suri-san, Suweon, GG, 2 ♂, 15.VI.1990 (S.H. Oh); Gwanglung, GG, 1 ♀, 27.VI.1986, 1 ♂, 3.VI.1988, 2 ♀, 10.VII.1990; Gapyung, GG, 1 ♂, 15.VII.1976 (K.T. Park); Mt. Dodram-san, near Icheon, GG, 1 ♂, 8.VI.1990-reared from *Quercus serrata*; Chuncheon, GW, 9 ♂, 21.VI.1985 (K.T. Park); 1 ♂, 1.V.1989 (K.T. Park), 1 ♂, 15.VI.1992 (K.T. Park), 6 ♂, 2 ♀, 11-13.VI.1989; 1 ♀, 2.VII.1989 (K.T. Park); Yongin, GG, 1 ♂, 8.VI.1989 (K.T. Park)-reared on *Quercus* sp., 1 ♀, 21.V.1989 (K.T. Park); Mt. Odae, GW, 1 ♂, 1 ♀, 26.VI.1989; Sogumgang, GW, 4 ♂, 1 ♀, 6-7.VII.1988; Mt. Palbong-san, GW, 1 ♂, 1 ♀, 5.VII.1990; Dune, Hwengsung, GW, 1 ♀ VII, 7.VII.1990 (K.T. Park); Hwacheon, GW, 1 ♂, 2.VII.1985 (K.T. Park).

Host plant. *Quercus serrata* Thunb., *Quercus* sp..

Distribution. Korea (South), Japan, Russian Far East.

Genus *Tornodoxa* Meyrick

Tornodoxa Meyrick, 1921, Exot. Microlep., 2:432.

Type-species: *Tornodoxa tholochorda* Meyrick, 1921.

Genus *Tornodoxa* has been known as a monotypic genus, in which the type species was described from Japan. Forewing elongate-obtuse; venation R_1 from middle, R_4 and M_1 connate in male, whereas M_1 free in female, R_5 absent, M_1 close to R_4 at base, M_3 and CuA_1 approximate. Hindwing with cos-

tal expansion at basal 2/3, round termen; apex obtuse; venation with R_s and M_1 stalked at middle, M_3 and CuA_1 stalked.

Key to the species of *Tornodoxa* based on venation and genital characters.

1. Forewing venation with R_5 absent; R_4 and M_1 connate in male; distal portion of valva almost rectangular; aedeagus large, basal half inflated *tholochorda*
- Forewing venation with R_4 and R_5 on a long common stalk, M_1 free in male; aedeagus small, strongly curved in S-shape *longiella*

***Tornodoxa tholochorda* Meyrick** 큰날개털수염빨나방 (신칭) (Figs. 19, 31, 41, 57, 59)

Tornodoxa tholochorda Meyrick, 1921, Exot. Microlep., 2: 432; Clarke, 1969:488.

Adult. Wingspan, 20-22 mm. Head creamy white. Second segment of labial palpi (Fig. 37) with loose hair-scales beneath, yellowish white at basal 1/3, speckled with light brown, terminal portion creamy white; 3rd longer than 2nd, slender. Forewings rather broad, with rounded apex; termen obliquely rounded; ground colour creamy white, irrorated grey and dark fuscous; a dark grey streaks from base to 1/5 above middle, some other streaks represented longitudinally on basal half of dorsum and posterior half. Hindwings grey.

Male genitalia (Fig. 33). Uncus broad, densely haired laterally. Gnathos hook-shaped, strong, heavily sclerotized. Valva rather short, fanlike, with rectangularly expanded terminal portion bearing long hairs distally. Aedeagus inflated at basal half, and then slender, bent at 5/6.

Female genitalia (Fig. 35). As shown in figure, ostium bursae with ridges along lateral sides. Corpus bursae very large; signum conical, bamboo rain-hatlike.

Material examined. [KOREA]-Gwanglung, GG, 1 ♂, 1 ♀, 4.VIII.1988 (K.T. Park). [JAPAN]-type-specimen, gen. prep.no. 8479/Clarke in the Natural History Museum, UK.

Distribution. Korea (South, new record), Japan.

***Tornodoxa longiella* sp. nov.** 긴날개털수염빨나방 (신칭) (Figs. 20, 32, 58)

Adult. Wingspan, 17-18 mm. Head pale yellow. Thorax pale yellow mixed with grey scales. Antennae simple, annulation on flagellum darker toward end. Second segment of labial palpi (Fig. 32) with rather short loose-hairlike scales beneath, forming rectangle, ochreous speckled with greyish brown above half on outer surface, broader toward terminal; 3rd segment slightly longer than 2nd, rather stout with appressed scales above. Ground colour of forewings ochreous, irrorated grey; costal patch near middle of costa trapezoidal, dark brown, followed by several small dark brown fascia and greyish orange alternatively; some other fascia near base above half, middle of cell and some others positioned below half irregularly. Hindwings pale grey.

Male genitalia (Fig. 58). It is very similar to the preceding species, *tholochorda* Meyrick, but it is distinguished from the latter by the followings: uncus shorter and wider; terminal portion of valva smaller, with rounded distal margin, whereas rather rectangular in *tholochorda*; apex of saccus round-

ed instead of sharpened in the latter; aedeagus much smaller.

Material examined. Holotype: ♂, Mt. Gyeong-bang-san, GW, 20.VI.1980 (K.T. Park). Paratypes: 3 ♂, same locality and date as holotype; Mt. Deogyu-san, Muju, JB, 1 ♂, 13.VIII.1985 (K.T. Park).

Distribution. Korea (South).

Remarks. This new species is placed in the genus *Tornodoxa*, because it is well in accordance with the latter in the characteristics of male genitalia, but few differences are found in the venation as follows: R_1 arising before middle, R_4 and R_5 rather long stalked, and M_1 free, arising near between R_4 + R_5 . Second segment of labial palpi is also a separable characteristic.

ACKNOWLEDGEMENTS

I wish to express my sincere thanks to the following individuals for materials and informations: Dr. L. Gozmany, HHNM, Hungary; Dr. K. Sattler, NHM, U.K.; Dr. O. Karsholt, ZMC, Denmark; Mr. K. Fujisawa, Japan. My special thanks are also due to the graduate-students in my laboratory, Messrs. Bong-kyu Byun, Young-dae Kwon, and Cheon-ku Lee who helped me in sample collection and preservation.

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*Hypatima*屬 (나비目: 빨나방科) 그룹의 분류학적 정리

朴奎澤

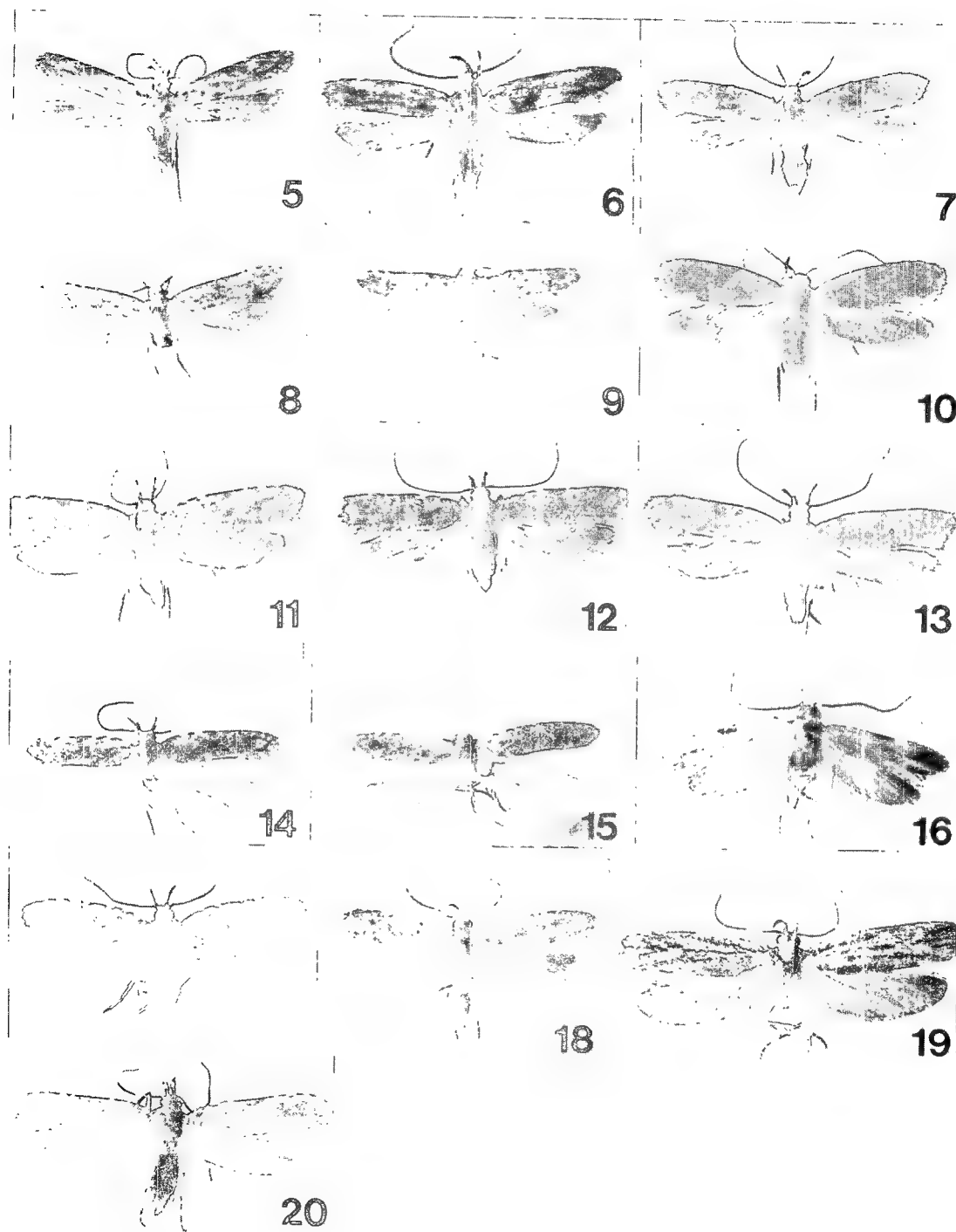
강원대학교 농생물학과

빨나방科의 *Hypatima*屬과 그 근연屬들을 정리한 결과 우리나라에 분포하는 種으로 총 16종이 분류등정되었으며, 그중 6種이 新種, 8種이 우리나라 未記錄種으로 밝혀졌다. 新種으로 기재되는 6種은 *Hypatima*屬의 *obscurella* sp. nov., *claviformis* sp. nov. 등 2種과 *Faristenia*屬의 *nigriella* sp. nov., *atrimaculata* sp. nov. *jumbongae* sp. nov. 등 3種, 그리고 *Tornodoxa*屬의 *longiella* sp. nov. 등이다. 이들 新種들과 8종의 未記錄種, 이미 알려진 2種에 대한 외부형태 및 생식기의 도해와 함께 屬과 種의 검색표를 작성하였다.

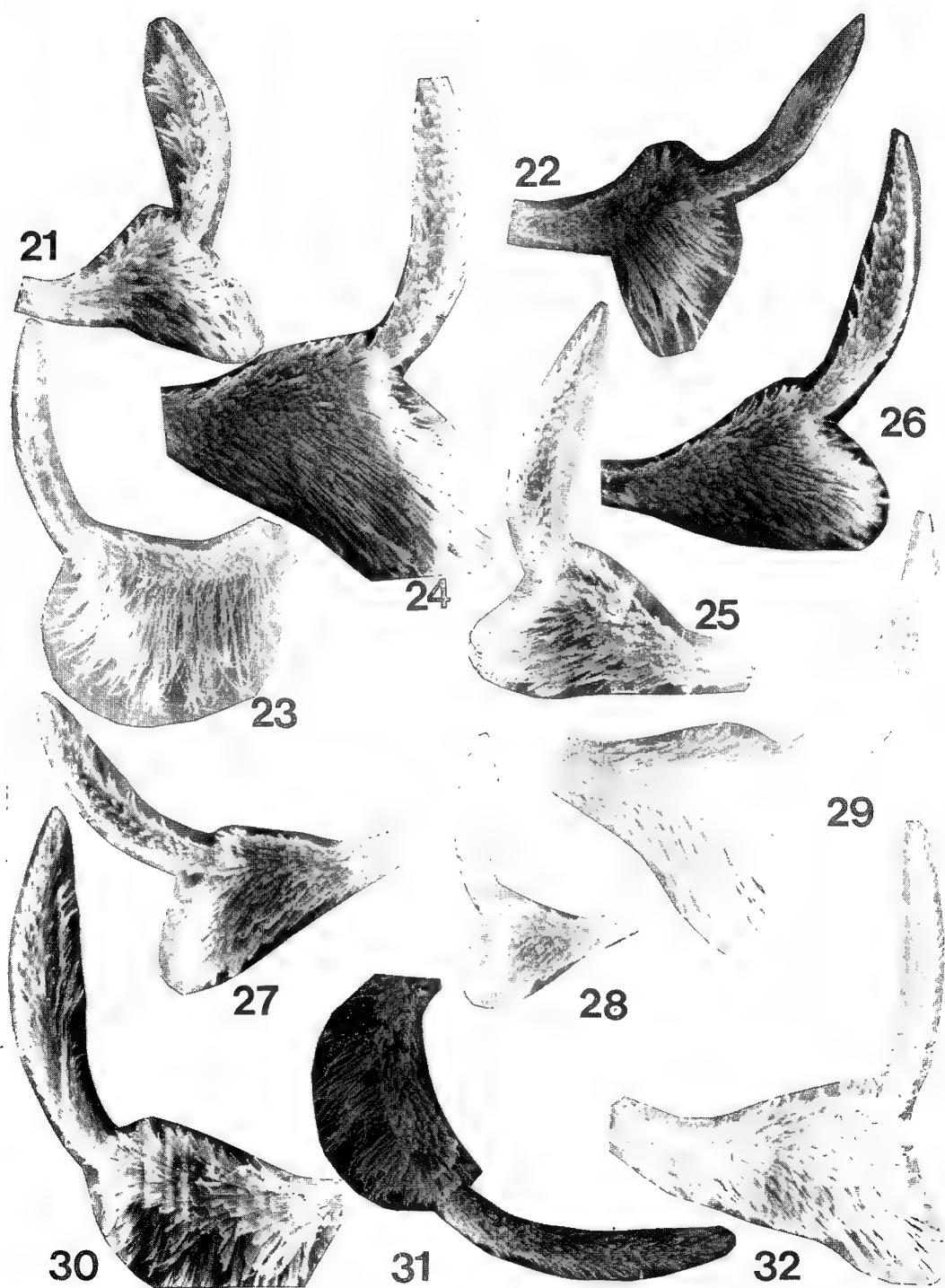
검색어: 분류, 나비目, 빨나방科, *Hypatima*屬, *Faristenia*屬, *Dactyarethrella*屬, *Tornodoxa*屬, 한국.

(Received : Feb. 10, 1993)

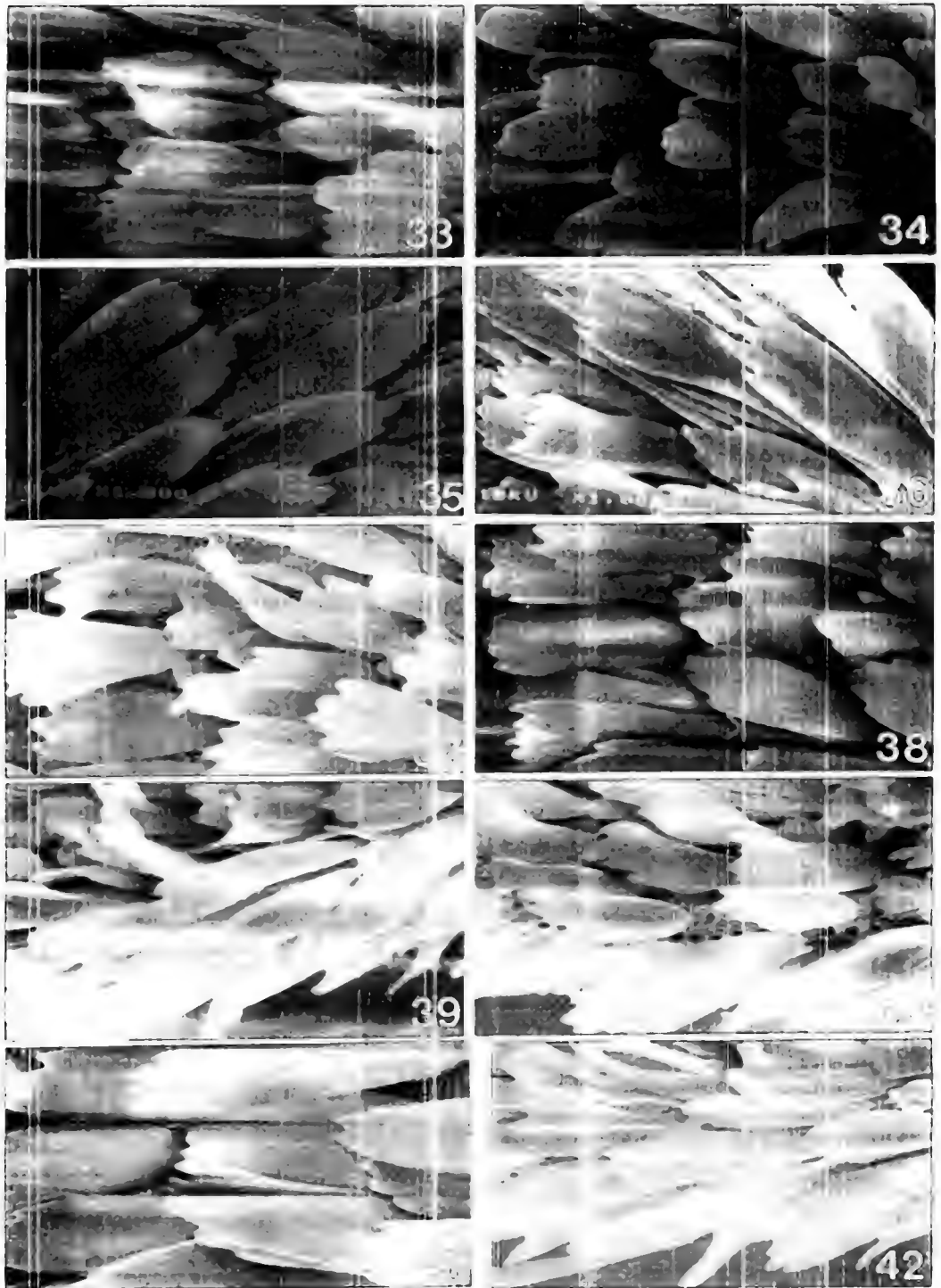
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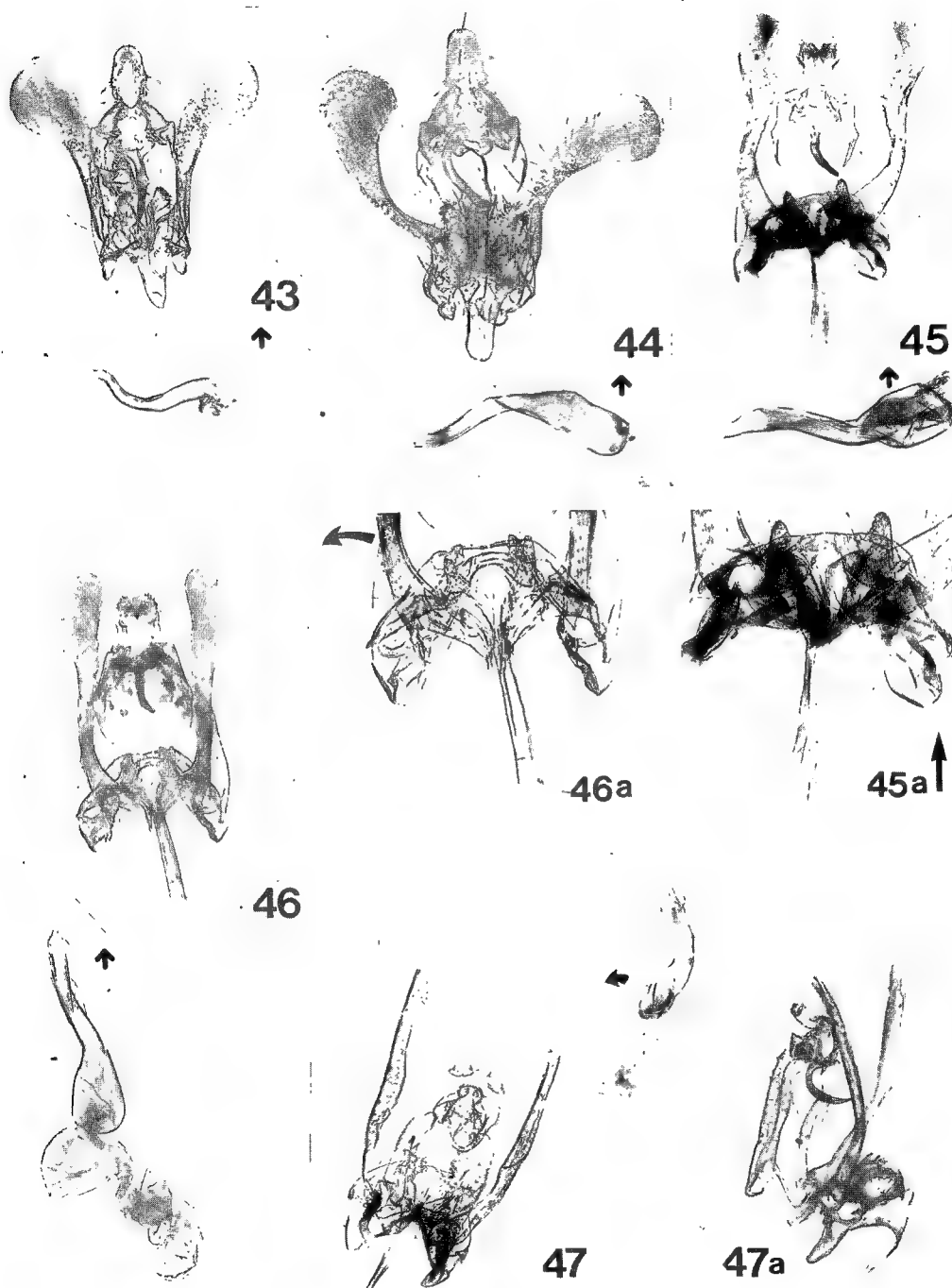
Figs. 5-20. Adults: 5, *Hypatima excellentella* Pon.; 6, *H. venefica* Pon.; 7, *H. mediofasciana* Park; 8, *H. ovscurella* sp. nov.; 9, *H. claviformis* sp. nov.; 10, *Faristenia acerella* Pon.; 11, *F. furtumella* Pon.; 12, *F. quercivora* Pon.; 13, *F. ussuriella* Pon.; 14, *F. nigriella* sp. nov.; 15, *F. omelkoi* Pon.; 16, *F. atrimaculata* sp. nov.; 17, *F. jumbongae* sp. nov.; 18, *Dactylethrella tegulifera* M.; 19, *Tornodoxa tholochorda* M.; 20, *T. longiella* sp. nov.



Figs. 21-32. Labial palpi: 21, *Hypatima obscurella* sp. nov.; 22, *H. excellentella* Pon.; 23, *H. venefica* Pon.; 24, *Faristenia acerella* Pon.; 25, *F. atrimaculata* sp. nov.; 26, *F. ussuriella* Pon.; 27, *F. nigriella* sp. nov.; 28, *Hypatima claviformis* sp. nov.; 29, *F. furtumella* Pon.; 30, *Dactylethrellaea teguligera* M.; 31, *Tornodoxa tholochorda* M.; 32, *T. longiella* sp. nov.

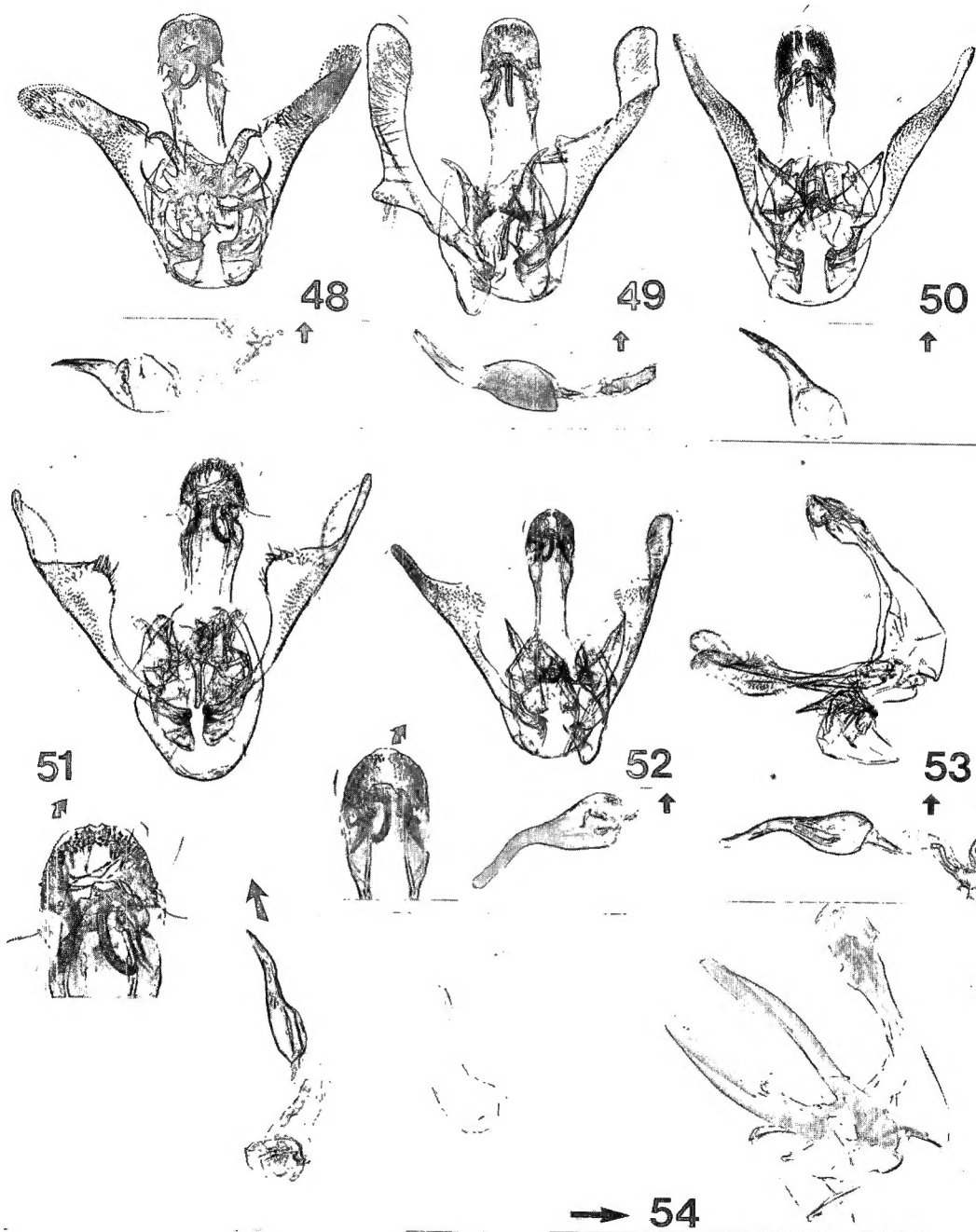


Figs. 33-42. Scales at the dorso-base on 3rd segment: 33, *Hypatima obscurella* sp. nov.; 34, *H. excellentella* Pon.; 35, *H. venefica* Pon.; 36, *Faristenia acerella* Pon.; 37, *F. furtumella* Pon.; 38, *F. ussuriella* Pon.; 39, *F. nigriella* sp. nov., 40, *F. atrimaculata* sp. nov.; 41, *Tornodax tholochorda* Meyr.; 42, *Dactylethrellaa tegulifera* Meyr.

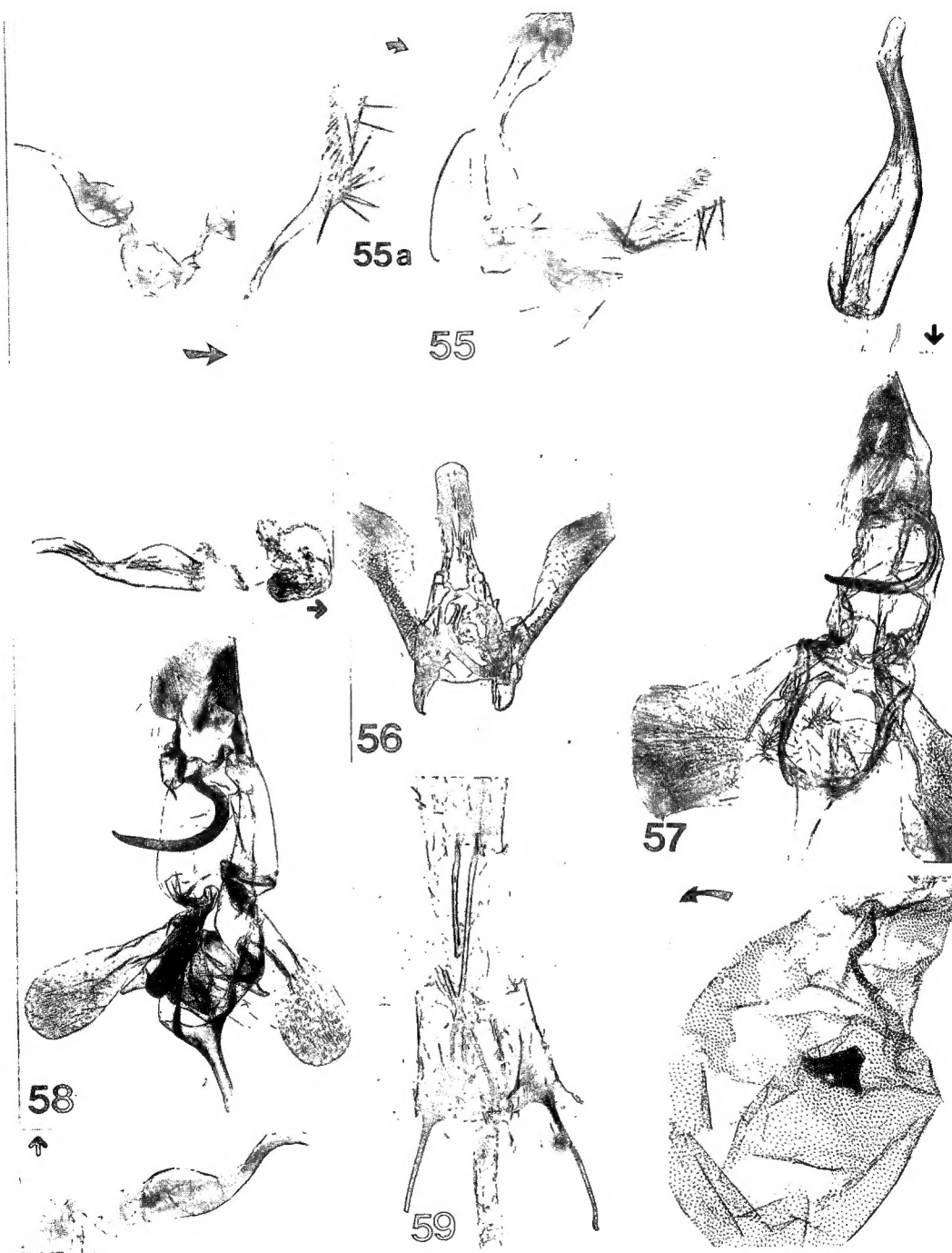


Figs. 43-47. Male genitalia with aedeagus: 43, *Hypatima excellentella* Pon.; 44, *H. venefica* Pon.; 45, *H. mediofasciana* Park; 45a, ditto, magnification of juxta; 46, *H. obscurella* sp. nov.; 46a, ditto, magnification of juxta; 47, *H. claviformis* sp. nov.; 47a, ditto, lateral view.

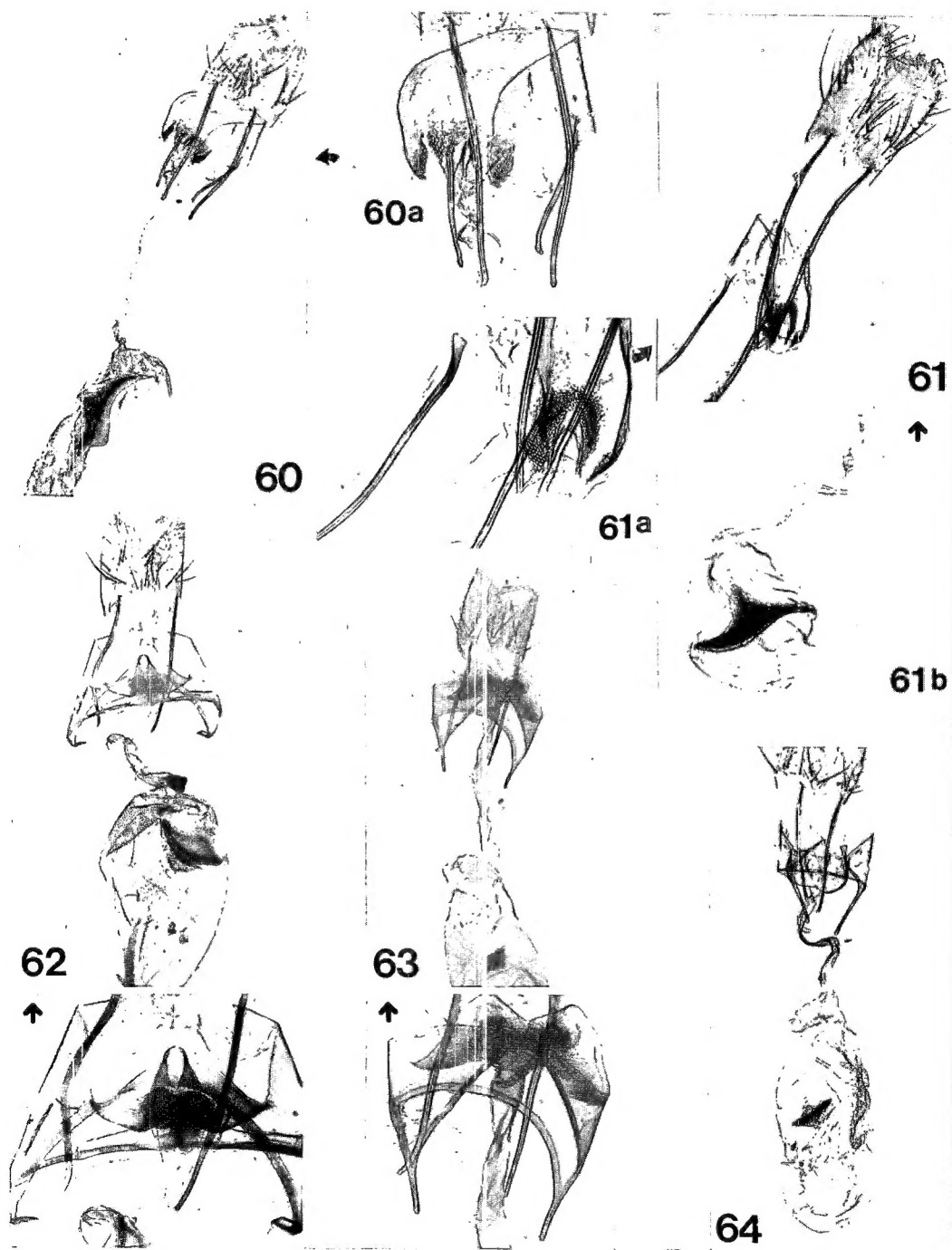
Pendophyllia neokathronoma
Pon., 1991



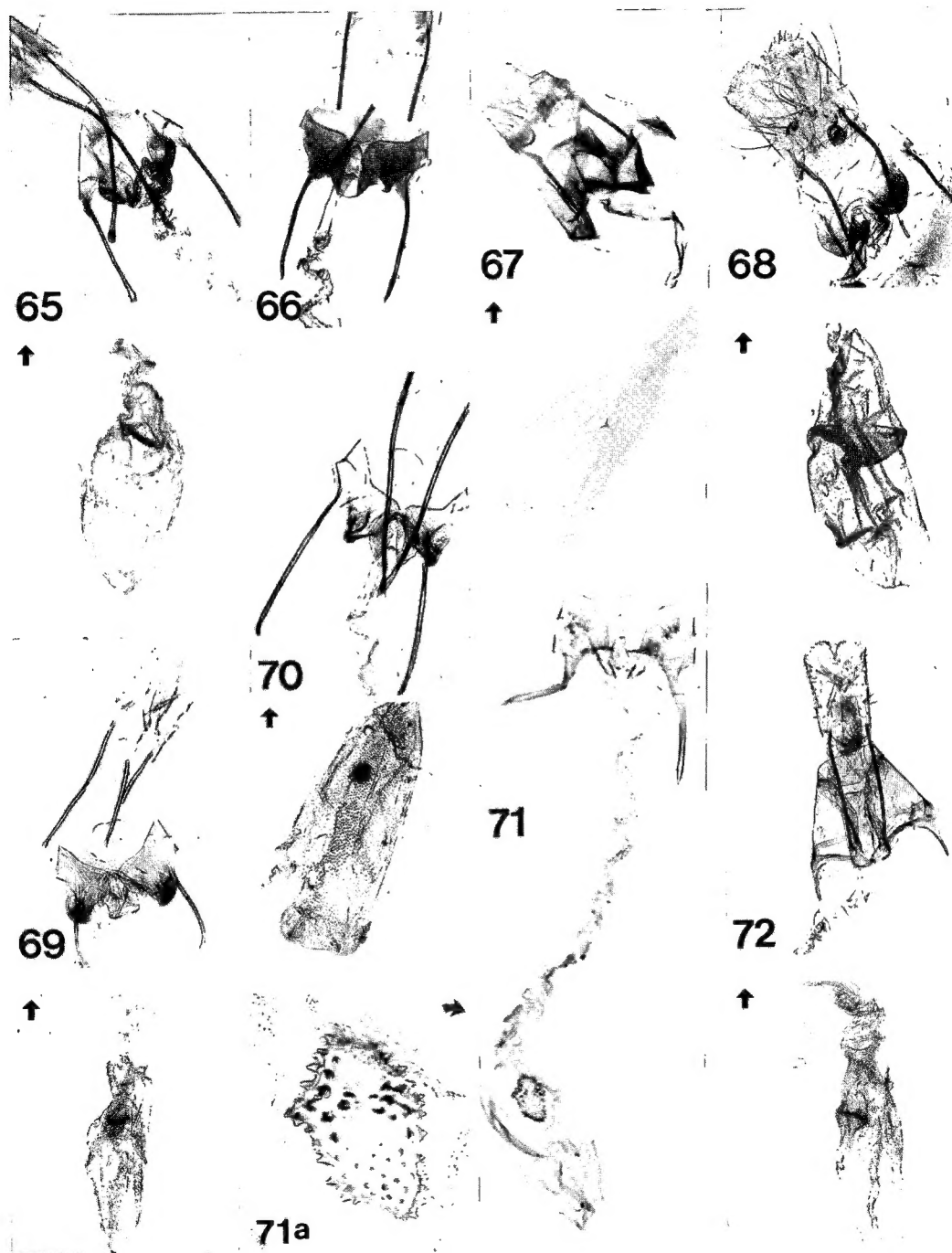
Figs. 48-54. Male genitalia: 48, *Faristenia acerella* Pon.; 49, *F. furtumella* Pon.; 50, *F. quercivora* Pon.; 51, *F. ussuriella* Pon.; 52, *F. nigriella* sp. nov.; 53, *F. omelkoi* Pon.; 54, *F. atrimaculata* sp. nov.



Figs. 55-59. Male and female genitalia: 55, *F. jumbongae* sp. nov.; 55a, ditto, left valva; 56, *Dactylethrella tegulifera* Meyr.; 57, *Tornodoxa tholochorda* Meyr.; 58, *T. longiella* sp. nov.; 59, female genitalia of *Tornodoxa tholochorda* Meyr.; 59a, ditto, bursae copulatrix.



Figs. 60-64. Female genitalia: 60, *Hypatima excellentella* Pon.; 60a, ditto, magnification of ostium; 61, *H. venefica* Pon; 61a, ditto, magnification of ostium; 61b, ditto, corpus bursae; 62, *H. mediofasciana* Park; 62a, ditto, magnification of ostium; 63, *H. obscurella* sp. nov.; 63a, ditto, magnification of ostium; 64, *H. claviformis* sp. nov.



Figs. 65-72. Female genitalia with corpus bursae: 65, *Faristenia acerella* Pon.; 66, *F. ussuriella* Pon.; 67, *F. furtumella* Pon.; 68, *F. quercivora* Pon.; 69, *F. nigriella* sp.; 70, *F. atrimaculata* sp. nov.; 71, *F. jumbongae* sp. nov., 71a, ditto, magnification of signum; 72, *Dactyrethrella tegulifera* Meyr.